REMARKS

Claims 1-10 are pending in this application with claims 1, 4-6, 9 and 10 being amended by this response.

Rejection of Claims 1 and 6 under 35 USC § 102(b)

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Golin et al. (U.S. Patent No. 5,079,630).

The present claimed invention recites a method and apparatus for bitrate control in a video or audio encoder having an encoded-data buffer. A first control signal representing the current filling level of the encoded-data buffer is used to control the video or audio encoder output bitrate by corresponding adaptation of at least one encoding parameter used in said video or audio encoder. The encoded video or audio data is then passed through the encoded-data buffer and through a downstream input buffer of a data recorder for storage on a storage medium operated in said data recorder. The encoded video or audio data, after passing through said encoded-data buffer, passes through the input buffer together with data from at least one other encoded data stream before being recorded on the storage medium, thereby controlling the at least one encoding parameter additionally by a second control signal representing the current filling level of the input buffer of the data recorder in order to avoid overflow and underflow of the input buffer.

Golin et al. differ from the present claimed invention in at least two aspects. Firstly, Golin et al. control the compressor 230 by using a byte count of bytes per frame on a frame-by-frame-basis or an average frame byte count (see, column 9, line 66 – column 10, line 4). However, in the present claimed invention, the encoder output bit rate is controlled by the current filling level of the encoder buffer. The encoder buffer may contain only part of frame data, or will normally contain data from more than one frame.

Additionally, in Golin et al. the dashed-line signal from formatter 250 in Fig. 2 is derived from the frame size in signal S10. However, in the present claimed invention the combined data stream of two different encoded data streams correspondingly influencing the filling level of the input buffer (i.e. the second buffer) controls the encoder. For example, in the present claimed invention, the input buffer MB and the storage medium receive encoded audio data and other encoded data, the rate of which can be non-constant (see, page 6, lines 6-11 and 17-18 of the present application). Specifically, independent claims 1 and 6 recite "said encoded video or audio data... together with data from at least one other encoded data stream." In order to avoid receiving a data rate for recording that is higher than the maximum recording data rate, the characteristic of the quantizer (and the inverse quantizer) in the video encoder MMPE of the present claimed invention is additionally controlled such that the maximum (or minimum) combined data rate in recorder DREC is not exceeded. In Golin the data stream gets a fixed share of the total data rate of S4, i.e. S7 or S3 also get a fixed share. In the present claimed invention, however, there are no such fixed shares. Golin et al. neither disclose nor suggest that "said encoded video or audio data... together with data from at least one other encoded data stream" as in the present claimed invention. Golin et al. also neither disclose nor suggest "controlling said at least one encoding parameter additionally by a second control signal representing the current filling level of said input buffer of said data recorder in order to avoid overflow and underflow of said input buffer" as in the present claimed invention.

In view of the above remarks and amendments to the claims, it is respectfully submitted that the present claimed invention is not anticipated by Golin et al. It is thus further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 4 and 9 under 35 USC § 103(a)

Claims 4 and 9are rejected under 35 U.S.C 103(a) as being unpatentable over Golin et al. as applied to claims 1 and 6 above, and further in view of Nitta et al.(U.S. Patent No. 5,381,275).

Similarly to Golin et al., Nitta et al. neither disclose nor suggest that "said encoded video or audio data... together with data from at least one other encoded data stream" as in the present claimed invention. Also Nitta et al. (with Golin et al.) also neither disclose nor suggest "controlling said at least one encoding parameter additionally by a second control signal representing the current filling level of said input buffer of said data recorder in order to avoid overflow and underflow of said input buffer" as in the present claimed invention. Nitta et al. disclose an apparatus and method for recording digital data with a controlled data compression ratio. In Nitta et al. an average transmission rate is calculated after a user inputs the recording time and recording capacity. Nitta et la. Is able to record the digital data on a recording medium continuously and at a constant transmission rate. Thus, there would be no reason in Nitta et al. to control the at least one encoding parameter by a second control signal representing the current filling level of the input buffer as in the present claimed invention.

In view of the above remarks and amendments to the claims it is respectfully submitted that Nitta et al. add nothing when taken alone or in combination with Golin et al. that would make the present claimed invention unpatentable. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 2, 3, 7 and 8 under 35 USC § 103(a)

Claims 2, 3, 7 and 8 are rejected under 35 U.S.C 103(a) as being unpatentable over Golin et al. as applied to claim 1 above, and further in view of Fukushima et al.(U.S. Patent No. 6,584,272).

Similarly to Golin et al., Fukushima et al. neither disclose nor suggest that "said encoded video or audio data... together with data from at least one other encoded data stream" as in the present claimed invention. Also Fukushima et al. (with Golin et al.) also neither disclose nor suggest "controlling said at least one encoding parameter additionally by a second control signal representing the current filling level of said

input buffer of said data recorder in order to avoid overflow and underflow of said input buffer" as in the present claimed invention. Fukushima et al. disclose a data recording apparatus able to record data at a variable data rate. The apparatus indicates an allowable recording time period, alternatives in recording condition setting according to the allowable recording time period and under certain user-selected operation al conditions, amount of data to be recorded per unit of time can be adjusted. However, Fukushima et al. neither disclose nor suggest controlling "the at least one encoding parameter by a second control signal representing the current filling level of the input buffer" as in the present claimed invention.

In view of the above remarks and amendments to the claims it is respectfully submitted that Fukushima et al. add nothing when taken alone or in combination with Golin et al. that would make the present claimed invention unpatentable. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 5 and 10 under 35 USC § 103(a)

Claims 5 and 10are rejected under 35 U.S.C 103(a) as being unpatentable over Golin et al. as applied to claim1 above, in view of Fukushima et al.and further view of Hamamoto et al.(U.S. Patent No. 5,661,526).

Similarly to Golin et al. and Fukushima et al., Hamamoto et al. neither disclose nor suggest that "said encoded video or audio data... together with data from at least one other encoded data stream" as in the present claimed invention. Also Hamamoto et al. (with Golin et al. and Fukushima et al.) also neither disclose nor suggest "controlling said at least one encoding parameter additionally by a second control signal representing the current filling level of said input buffer of said data recorder in order to avoid overflow and underflow of said input buffer" as in the present claimed invention. Hamamoto et al. disclose a broadcast signal receiver and tape recorder wherein the video cassette recorder is able to determine the presence or absence of additional information include in a broadcast signal for a selected channel. In Hamamoto et al. the recorder compares a remaining recording time available with the program continuation

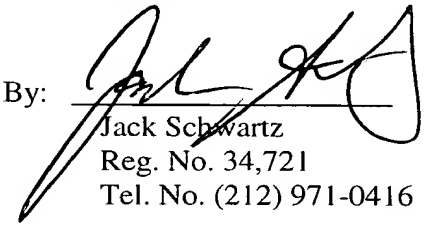
time extracted from the broadcast signal and controls a recording speed mode appropriately based on the comparison. However, Hamamoto et al. neither disclose nor suggest controlling "the at least one encoding parameter by a second control signal representing the current filling level of the input buffer" as in the present claimed invention.

In view of the above remarks and amendments to the claims it is respectfully submitted that Hamamoto et al. add nothing when taken alone or in any combination with Golin et al. and Fukushima et al. that would make the present claimed invention unpatentable. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,
Klaus Gaedke et al.

By: 

Jack Schwartz
Reg. No. 34,721
Tel. No. (212) 971-0416

Thomson Licensing Inc.
Patent Operations
PO Box 5312
Princeton, NJ 08543-5312
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